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ACCOMPLISHMENTS OF BOYS' AND GIRLS' CLUBS IN
FOOD PRODUCTION AND CONSERVATION

BY O. H. BENSON,

United States Department of Agriculture, Washington, D. C.

I am glad to assure you of the interest and coöperation of Secretary Houston and his food army in this food convention and in its deliberations. We count it a great privilege to present for your consideration the problem of our *boys and girls* in this world program of food production and food conservation as related to the world war and the welfare of nations. The present international crisis is rapidly bringing us to a more complete realization of our world citizenship and the common brotherhood of man.

Boys and girls have always played a serious and important part in the great problems of war and peace. The present crisis will furnish to our junior citizens great opportunities for manly and womanly service of all kinds. President Wilson has called them as definitely into his army as he has the men who wear the official naval and military uniforms. Uncle Sam's food army now numbers over two million boys and girls who have enlisted for full patriotic service during the war and who have added to their oath of allegiance to the flag the following consecration pledge:

"I consecrate my *head, heart, hands and health*, through food production and food conservation, to help win the world war and world peace."

This pledge is just another patriotic expression of the meaning of the Boys' and Girls' Club emblem known as the 4-H emblem. Its peace time meaning is "The Equal Training of Head, Heart, Hands and Health in all Farm and Home Activities."

The splendid armies of *boy scouts, girl scouts and camp fire girls* have also enlisted under the banner of food production and food conservation, and are diligently working out their slogans of feeding soldiers and saving for the greater need of our nation. I invite your interest and coöperation in the program of enlisting more of the 23,000,000 children of school age in this food army; then, after the boys and girls have volunteered, let us see that organization, encouragement and leadership be given to this division as is given

to the war and navy part of President Wilson's army. Did you ever stop to think of how great might be the results of boys' and girls' work in food lines, if their work could be as well supported and directed as are the soldiers of a nation?

Last year, 1916, it cost the federal government, states and local people 79 cents per capita to supervise, direct, instruct and encourage the boys and girls in food production work. As a result they produced an average of \$20.96 worth of food for the nation, thus making \$20.17 net profit on the investment, a piece of work which was the result of encouragement and proper direction throughout the year. Of course, we all understand that this economic measurement is by far the lowest value we can place on the work when we compare with it the vocational guidance and training for the future and the many other social and educational advantages.

Our boys and girls, in addition to producing "*food bullets*" to help fight the central powers, have organized to wage a relentless and effective war against all abnormal prices on necessities of life, against starvation, weeds, insect pests and disease germs of every type.

The following report taken from 1916 statistics will show the estimated annual loss to the nation due to common enemies of both plant and animal life:

SOME ENEMIES OF AMERICA

Estimated total losses due to all animal diseases.....	\$212,000,000
Estimated loss of cattle mostly due to diseases.....	177,750,000
Estimated loss of cattle due to blackleg.....	27,551,000
Estimated loss of sheep due to various diseases.....	21,184,000
Estimated loss due to hog cholera.....	32,502,000
Estimated loss of farm crops, due to insect pests.....	700,000,000
Loss due to weeds.....	300,000,000

DIRECT ENEMIES TO HUMAN LIFE

Estimated Annual Loss

From tuberculosis.....	80,000
From preventable colds.....	55,000
From intestinal diseases.....	60,000
From pneumonia.....	50,000
From typhoid.....	16,000

The above report challenges serious thought and vigorous action on the part of every member of our junior citizenship.

Look up the records of the Civil War or of all other wars fought

in this or any other country and you will find that boys have not only been at home to take father's and brothers' place on farms, in factories and industries but have gone to fight the nation's battles on the very firing line and have done their job along with the men in a big way. The Union army during the Civil War had over 4,051,500 boys, ranging in age from ten to twenty-one years, over half of these under eighteen who offered and gave their lives in the service of the nation directly to fight with gun and other devices of warfare. We may safely assume that the Confederate army had even a greater number of boys. It is estimated that over eight million boys under twenty-one years of age fought in the Civil War in the two contending armies.

If we knew the records today of the European nations who are now at war, we would be alarmed at the fact that a large percentage of those now fighting and who have been fighting are mere children under eighteen years of age. The following table will furnish some interesting studies in connection with the children in service during the Civil War:

BOYS MEMBERS OF THE ARMY OF THE NORTH DURING THE CIVIL WAR PERIOD

<i>Age (years)</i>	<i>Number</i>
10	25
11	38
12	235
13	300
14-15	105,000
16	126,000
17	613,000
18	307,000
18-21	1,900,000
Total 10-21	4,051,598

We were all pleased with President Wilson's famous message at the opening of the war with Germany in which he stated so definitely that two types of soldiers were needed; one on the battlefield and in the trenches, and the other in the field of food production and food conservation. In these, his famous sentences, farming, home making and common industry were all glorified and dignified; the making of war gardens, the conserving of food and the manufacturing and mining of our world necessities by his tokens became privileges of all American patriots.

You will be interested to know that there are today more war

gardens owned by the children than was ever true in years gone by. Boys and girls who enlisted in this army of food production are still in the game, vindicating their oath of allegiance to the country and proving that they purposed real achievement when they entered.

Our President often says to the boys and girls when on their annual visits to the White House, "Achievement is the only patent of nobility of modern times"; and then he turns and aptly suggests, "That such being true, you of the farm and the home constitute the nobility of our nation." It has been a great inspiration to me to witness such scenes and note how these young champions of soil and kitchen straighten out and study with a proper perspective this inspiring message of our first citizen of the land.

The achievements in food production and food conservation for 1917 must be accredited to our boys and girls as well as to men and women. As most of you know, the program of food work with boys and girls did not start on June or July first nor was it at all the result of free press reports, printed instructions, or as a mere response to a call to arms after the declaration of war.

You and I who have thought carefully, who have studied well civilized society, know that you cannot educate children or even train them to grow economic gardens or deliver them at the end of the year as a worth while investment, unless there has been education, leadership and direction by the people in that community, in the state and in the nation, for several years prior to the beginning of a war program. The 3,000 county agents, 1,000 club leaders and several hundred women agents, thousands of public school teachers, scout leaders and others have been educating for this 300 per cent gain in food gardens for a number of years.

I listened some time ago to a European who said,

We people of Europe made three serious blunders when we started in this world war. First, we in a measure *let go of education* and advised our schools to close, and they did close in many instances. Second, we did not appreciate the importance of starting hostilities in the cornfields, potato patches, gardens and in the kitchens, on the some day we started hostilities on the battle front. After we had been fighting for months and for two years, then we began to marshal our forces of food production and food conservation, but we have lost the most important part of our preparation—the most effective period. Third, we have sent our tender boys into the trenches instead of into harvest fields and food production activities which means that after war is over we will people Europe with women, old men, crippled and a hopelessly depleted male population to propagate our kind and to rebuild our institutions and industries.

We started, thank God, in a better way in this country and with appreciation to our wise chief executive we started in both war and food preparation on the same day, three lines of national activities, and we will live to see the day, I trust, when we will understand more fully the wisdom of thus speeding up hostilities in all important lines. The army and navy went to work, our homes in food conservation went to work, all of us engaged in a family job of production, conservation and real war.

We make a serious mistake, friends, in these days by trying to segregate by sex, important work and especially war jobs. Our food conservation program demands the entire family for every day in the year and we men must be just as conscious of the food conservation program as we expect our wives to be. We should and must have a direct part in the conservation work. Let us "Hooverize" men and children as well as women.

Then, too, in the bigger business of organization, in these things that have been so aptly and ably presented by one of the speakers about the women getting into productive enterprises, we men make a serious mistake in thinking that women cannot be trusted to handle business matters, and some think women are incapable of managing business enterprises. As an extension worker for Uncle Sam I have learned that one woman at least does the business of the family perhaps better than the old man could do it. There is no war program that is confined to sex, man or woman. But there is a war program in every community that belongs to both and should of course be a family enterprise.

Our boys and girls should by all means function economic, educational and industrial efficiency during the war, of course, without abuse to the child labor program, but with a definite gain to their educational efficiency in school, communities, homes and churches, so that all may be builded into a great world-wide power for good.

We, as parents, teachers and leaders, patronize our children too much. What I mean is this: we assign to them kids' jobs in a kid's way, then we wonder why they are unable to see the pleasure in work as we see it. They see nothing but "stingers of unrequited toil"—hard work. It is full of aches, pains and discomforts from early morning until late at night, because we have given them everything about work except mental rejuvenation, heart interest, ownership contest and a manly respect for achievement in their work. We have given them every thing else but the things most needed.

Let me illustrate just what we mean by the transforming of drudgery into interesting work. Meet a boy on the street and say, "Hello, Jim, how are you this morning?" "Pretty well, thank you." "Listen, Jim. I have a little bit of a job I would like to have you help me do today. Any little boy can do it, Jim. It won't make you tired, Jim. Come on now, won't you do it for me, Jim?" And Jim, a true American boy, straightens up and replies, "Naw. I got another job," and leaves you holding the bag.

Mr. County Club Leader comes along with a big appeal, and knows that every boy must not only be trusted but must each day be given the big incentive to tackle a man's job. "Hello, Jim. How are you, my *young man*?" At once the "young man" expression has an electrical effect and the boy knows that he has been properly addressed. "Jim," says Mr. Club Leader, "I have a hard job that I must have completed today. It is a big job. It will take the brawn, brain and muscle of a real man, a fellow who can tackle, who can stay in the game and who can finish the job. Jim, can you help me find a man for this job?" Jim looks around in a bewildered way for a moment, finally comes up and modestly says, "Can't I help you do it?" The job is assigned and he is justly surprised at his manly and efficient handling of a difficult piece of work.

It may be a war garden, a wheat substitute program, or what not. If it is Jim's job and if granted the right appeal, he will enter with the spirit of a football star and will play the game until he makes a touchdown; and what is more, he will show results as a real man, and you will be proud of his achievement.

In 1916, we had about 350,000 boys and girls who enlisted in Uncle Sam's food army a year before war was declared. We had a little less than that in 1915, a little less than that in 1914, and so on down to the year of 1910, when there were only a few hundred volunteers in this food production and food conservation army; but they have been gaining ground annually, not only in the size of the army but in the number of projects undertaken and in the amount of food produced.

Let me give you some concrete illustrations of results in this "Made in America" boys' and girls' crusade.

The state coöperative club leaders conducted 1,534 demonstrations in home canning and food conservation. At these demonstrations there was an attendance of 20,860 club members, 53,565

men and women and 14,152 boys and girls *other than club members*—a total attendance of 88,577. These same club leaders visited 12,898 club plats. This is in addition to the local supervision conducted by 4,367 volunteer club extension leaders.

A total of 2,083,606 pieces of printed follow-up instructions were furnished to club leaders and club members during the year. This material was about equally divided between that supplied by the state colleges of agriculture and the Department of Agriculture and constituted in the main instructional matter prepared for boys and girls enrolled in the regular project work, written with the idea of reaching the boy and the girl rather than the adult reader.

In 1915, 209,178 club members were enrolled, 10,419 over the enrollment secured for 1916. This reduction was due to an effort on the part of state leaders to reduce the enrollment and intensify the work so that more direct attention could be given club groups and the individual members. It is interesting to note, however, that 57 per cent of the 1916 enrollment consisted of members who had belonged to the 1915 clubs. Owing to lack of funds and leaders, eight states reduced their total enrollment.

There has been a steady tendency towards organizing members into club groups and having club members work in groups as well as individuals. Most of the states reported last year that they were working definitely to perfect the work through organized club groups with leaders in charge. Paid coöperative leaders spent on the average of 29.35 per cent of their time in office work and 70.65 per cent of their time in field extension activities.

In the corn club work 985 clubs were organized in twenty-four states, with an enrollment of 14,400. Final and complete reports were made by 3,918 members, who cared for 9,711.99 acres. On this acreage, members produced 523,110.8 bushels of corn, or an average yield per member of over 100 bushels to the acre. To produce this corn, the members invested \$142,867.37, including rent of land, cost of members' own labor and all other items of expense. The average investment per members making final complete report was \$36.46.

Twenty-three states organized garden and canning clubs. The 1,160 garden and canning clubs had an enrollment of 24,254 members of which 7,903 reported having canned 201,305.5 quarts of products, an average of 25.4 quarts per member. The total production cost

to members reporting was \$28,126.61—an average of \$3.56 per member.

In the pork and crop production club work, twenty-five states organized 3,174 members into 8,800 clubs. The members managed 5,300 animals, producing 728,411.96 pounds of pork, worth \$85,762.04. It cost \$42,675.58 to produce this pork, leaving a net profit to the members of \$43,086.46.

Lewiston One-tenth Acre Garden Clubs. Each of the forty-six garden club members in the irrigated section at Lewiston, Idaho, took one-tenth acre plat with the definite aim of showing the possibilities of these uniform plats and of making money during the vacation at home. Some chose mixed-vegetable gardening and others chose the main crops of their parents, such as strawberries, apples, potatoes, head lettuce and cauliflower. Careful records were kept by each of all expenses and receipts as well as allowing wages for actual time engaged in their club work.

The forty-six members produced \$3,864.80 worth of fruits and vegetables at a total cost in time, labor and materials used of \$724.54, leaving a net profit of \$3,140.26, or the average gain per member of \$68.26. The greatest net gains made were by Harry Phillips who made clear \$207.40 on his tenth-acre of head lettuce and Charles Iseman, \$118.05 on his tenth-acre of early strawberries, while the lowest returns to any club members were \$23 and \$25 each for his plat of late strawberries, vegetables and apples. Thus each became a local demonstrator in the home and for the community of the best methods of production and marketing as well as a demonstrator of business records in connection with the work.

On June 30, 1917, there were 948 paid leaders working in connection with the boys' and girls' club work, and 9,748 voluntary club leaders. Of the paid leaders, 240 were paid coöperatively by the state and the United States Department of Agriculture, 133 by the state college and the local people, 18 by college people only and 733 by the local people, as outlined and planned by the state coöperative leaders in charge.

During the past winter from December 1, 1916 to April 1, 1917, 3,589 club members attended the one or two weeks' short courses at the state colleges of agriculture. One thousand five hundred and twenty-eight of these were champions of their respective counties in the boys' and girls' food work and were sent by the local people free of expense to attend the college short courses.

The boys' and girls' club work during the present year has not only increased its membership and number of clubs but has also increased its organization for the proper supervision and direction of the work. Eighteen different agricultural and home economics projects are being promoted in the northern, central and western states with a total enrollment of regularly organized club members of 406,636. In addition to this we have about 400,000 boys and girls in the war emergency projects growing gardens, canning food products, raising poultry, making war bread and doing other things of a special nature and character and supervised by our state coöperative leaders. These are enrolled from the large cities and are not classified as regular farm and home club members. The regular members are now organized into the following clubs:

Corn clubs.....	945	Bread clubs.....	643
Potato clubs.....	1,217	Sewing clubs.....	1,250
Home garden.....	3,070	Handicraft clubs.....	76
Canning clubs.....	2,152	Sugar Beet clubs.....	161
Garden and canning.....	776	Home cooking clubs.....	755
Mother-daughter.....	270	Other miscellaneous clubs...	448
Poultry clubs.....	832		
Pig clubs.....	1,037	Total club groups	13,790
Baby beef clubs.....	158		

These clubs are all definitely organized, have the services of our leaders, hold regular meetings, have their own officers and use the project activities as a basis of their work.

What we mean by "club work" is simply this: the organization of boys and girls and working them together in groups on a year's definite program, with a volunteer or a paid club leader supervising each group closely, furnishing the follow-up instructions, making personal visits and making them feel that they are really helping to do a piece of the world's work rather than just giving them hard work as medicine for their own good.

When war was declared the United States Department of Agriculture in coöperation with the agricultural colleges had county agricultural agents, woman demonstration agents, and leaders of boys' and girls' club work on the job in over half of the counties in the union. Today there are leaders in one of three extension lines in nearly every county in the United States and in some of them there are two, three or even more. The state colleges of agriculture

and the experiment stations, assisted by the Department of Agriculture in a coöperative way, have been preparing for a big food program for some five or six years, and during this time boys and girls have been getting into the game and learning how to increase the production of food products and at this time help meet our war needs.

There are five community canning kitchens near here, outgrowths of the children's work. Over here at Ardmore, Pa., there have been canned since June, five thousand jars of food products, now in storage; at Bryn Mawr, five thousand packs of food products, put up since June; at Rosemont, a thousand packs; at Wayne, a thousand; at Berwin, six thousand—over eighteen thousand packs in these five centers have been successfully canned by the one-period, cold-pack method of canning outlined in *Farmers' Bulletin* No. 839, with but a few jars of spoilage, a smaller percentage of spoilage than is found with the average commercial canning plant.

There are over forty community coöperative food centers of this type in the United States, all started since war was declared. At Southampton, Long Island, Lake Forest, Illinois, and at St. Louis, all are doing wonderful work. I have reports from these three now, and will hope to hear from others later.

The one at Lake Forest, Illinois well illustrates what we might have in every community. They have a community canning kitchen and will also do work on the drying of vegetables. They have under the canning kitchen a storage room for all their canned goods. It is managed and supported by the best business brains of Lake Forest; some of these high-powered business men from Chicago live up there and they have gone in and contributed freely of their brain, brawn and business experience. They have also a community root and tuber storage plant. These three conservation enterprises will serve them throughout the year. Lake Forest, Illinois gives us a notable example of what should be done in a coöperative way in other communities. The Lake Forest, Illinois canning kitchen now has in storage sixteen thousand quarts of one-period, cold-pack canned goods, and they are going to put up vegetables, jams and marmalades. They will also manufacture potato starch in such a way as to serve as a substitute for wheat flour.

In talking with a potato grower I learned that from 10 to 20

per cent of a potato crop is made up of culls, such as small, scabby, and broken tubers—all of them easily made up into potato starch for home use. The interesting thing is that you can take that 10 or 20 per cent of otherwise unprofitable potatoes and run them through a food grinder or chopper at home or in a community coöperative center, and by putting it through three or four washes you can bring out of it a pure white starch—a splendid exercise for the school to teach the children, a splendid thing for the home to start. This potato starch will become a splendid substitute for wheat. For those who know how to bake bread, 20 per cent of the flour now used in the bread, custards, pies, cakes and other dishes, may be made from potato starch taken from these cull potatoes which would otherwise be wasted.

In conclusion may I urge upon you all the necessity of increasing the interest in every community in our *junior food soldiers* and in the building of adequate food fortifications, above all help us patriotically in the development of the four-square world citizens, boys and girls, achievement crowned, because of opportunities given them by a thoughtful and efficient leadership.

THE WORK CONDUCTED BY THE COMMERCIAL CANNERS OF THE COUNTRY

By W. D. BIGELOW,

Chief Chemist, National Cannery Association.

The preservation of food by sterilization in hermetically sealed containers was suggested over a hundred years ago. For forty years the process was chiefly confined to the home, and it was only in the middle of the last century that commercial canning passed the experimental stage. Its history as an industry, therefore, dates back only about sixty-five years.

The canning industry is one of the great movements in connection with the manufacture of food which has necessarily accompanied the changing economic conditions of the century. From a household method used mainly to preserve what was left over of raw products grown for other purposes, there has been developed an industry using raw products grown especially for can-